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MOBILE PHONE BASED MEDIA SIZE AND COUNT

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Mobile phone based Media size and count

Abstract

In printers, the media size and count are measured with the help of various sensors.

These solutions work well, however the low cost printers cannot have the luxury of such sensors and we have to compromise by asking the user to choose the media size while printing and no media count feature support for such printers.

The idea here talks about a solution, using the mobile phone capabilities, to calculate media size and count without the need of having such sensors.

Problems Solved

The printers which do not have relevant sensors, cannot have the features like auto detection of media size and media count.

This always causes a problem statement to the organization of trading off between features vs cost.

Also, it will not be easy for normal users to choose A1, A2, Letter etc as media sizes. When a big print job is given, users may find out of paper only mid way of the job when it happens.

Solution

Media Size Detection:

The user while initiating a print job, will be prompted to use his mobile camera to “scan” the tray.

This is just like scanning a QR code.

There are existing algorithms and apps to measure the length of objects. Using this, while scanning, the length and width of the media can be measured and the media size can be deduced. It may so happen that the length of media may not get completely captured while scanning. But using the width, the length can be deduced assuming standard media sizes.

Now the user does not have to choose the media size manually as the “scanning” will choose the size for the user.

Improving accuracy and speed of size detection:

The slider which gets adjusted to fit the media, can have some specific color dots or logo pictures on it so that the width calculation can be based on the distance between those two points.

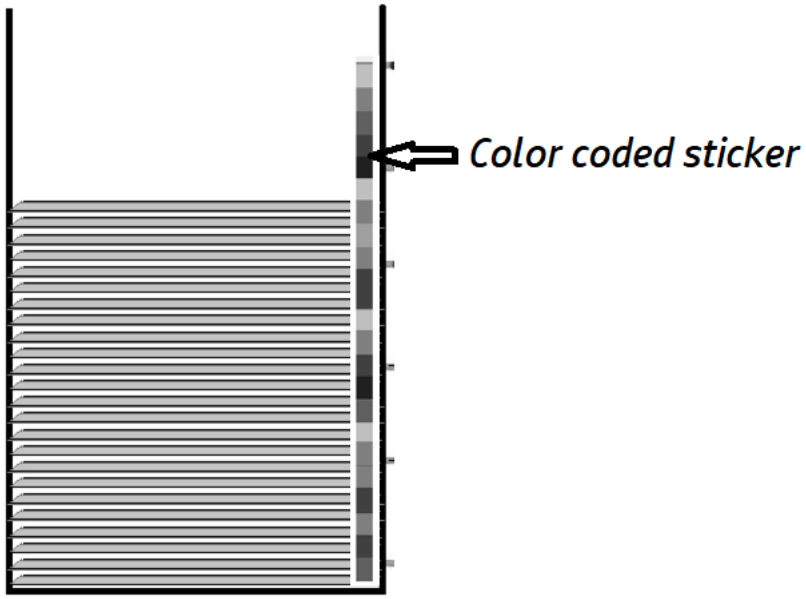
This is because different tray can have different physical structure (look & feel) and the above mentioned two signaling spots can be commonly used for accuracy.

Also the scanning process will be faster because the algorithm will have to search for only two predefined “markers” and no need to scan and analyze the physical structure of the tray to make out the media placement.

Media count detection:

The tray will have a color code sticker vertically placed at the side of the tray. Part of this sticker will be covered with the available media. Based on the color seen in the mobile camera, the count can be calculated by decoding.

After the count is computed, if the print job needs more media than the available count, the user can be immediately notified.



The novelty with this approach is that all the existing solutions need sensors to achieve this functionality.

Advantage

- Can be a unique sell up feature
- Cost of sensors saved
- Better user experience for low end printers

Disclosed by Shinoj Bhaskaran and Veedu Subhash Pulikkara, HP Inc.